

FIG. 1

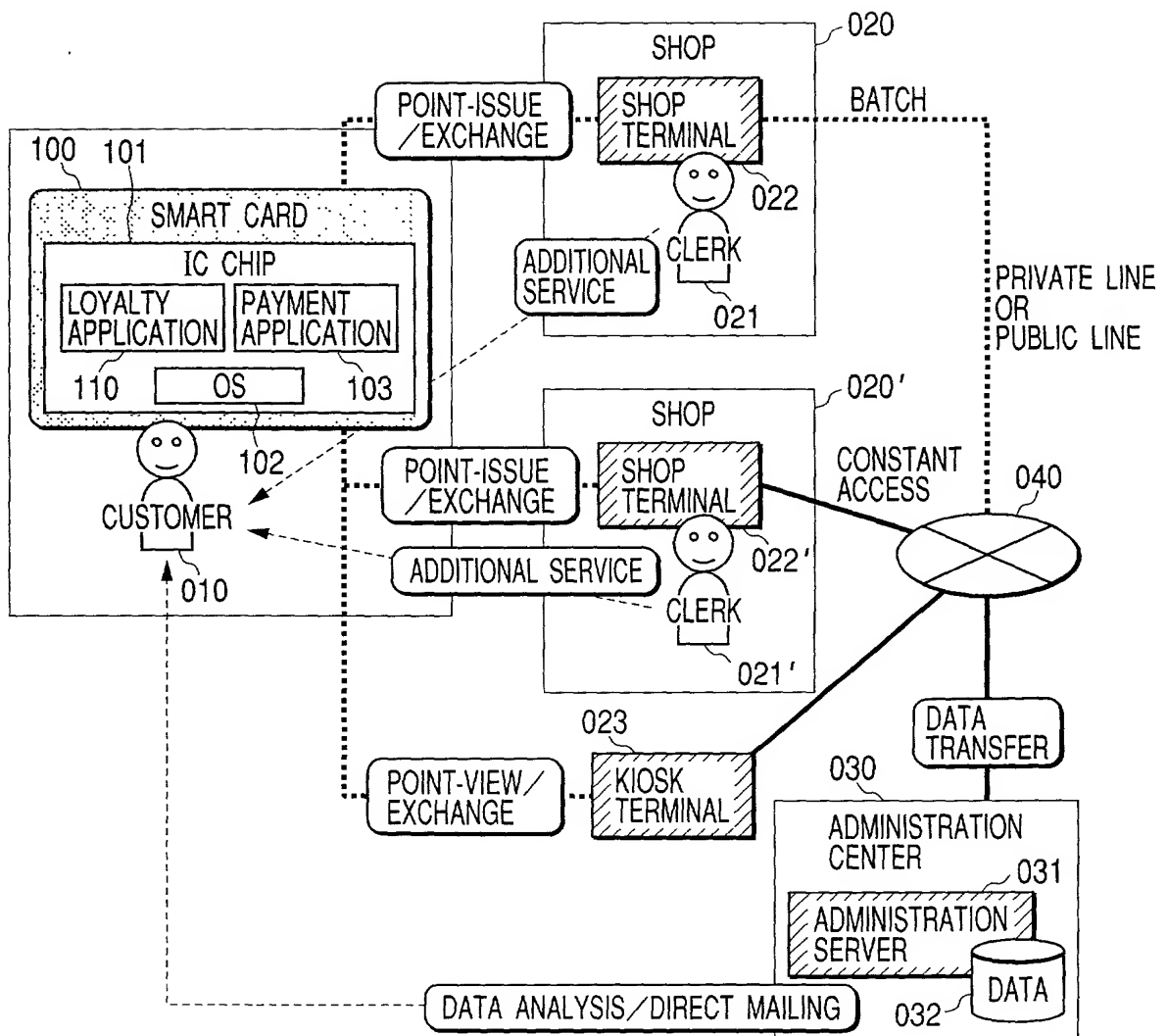


FIG. 2

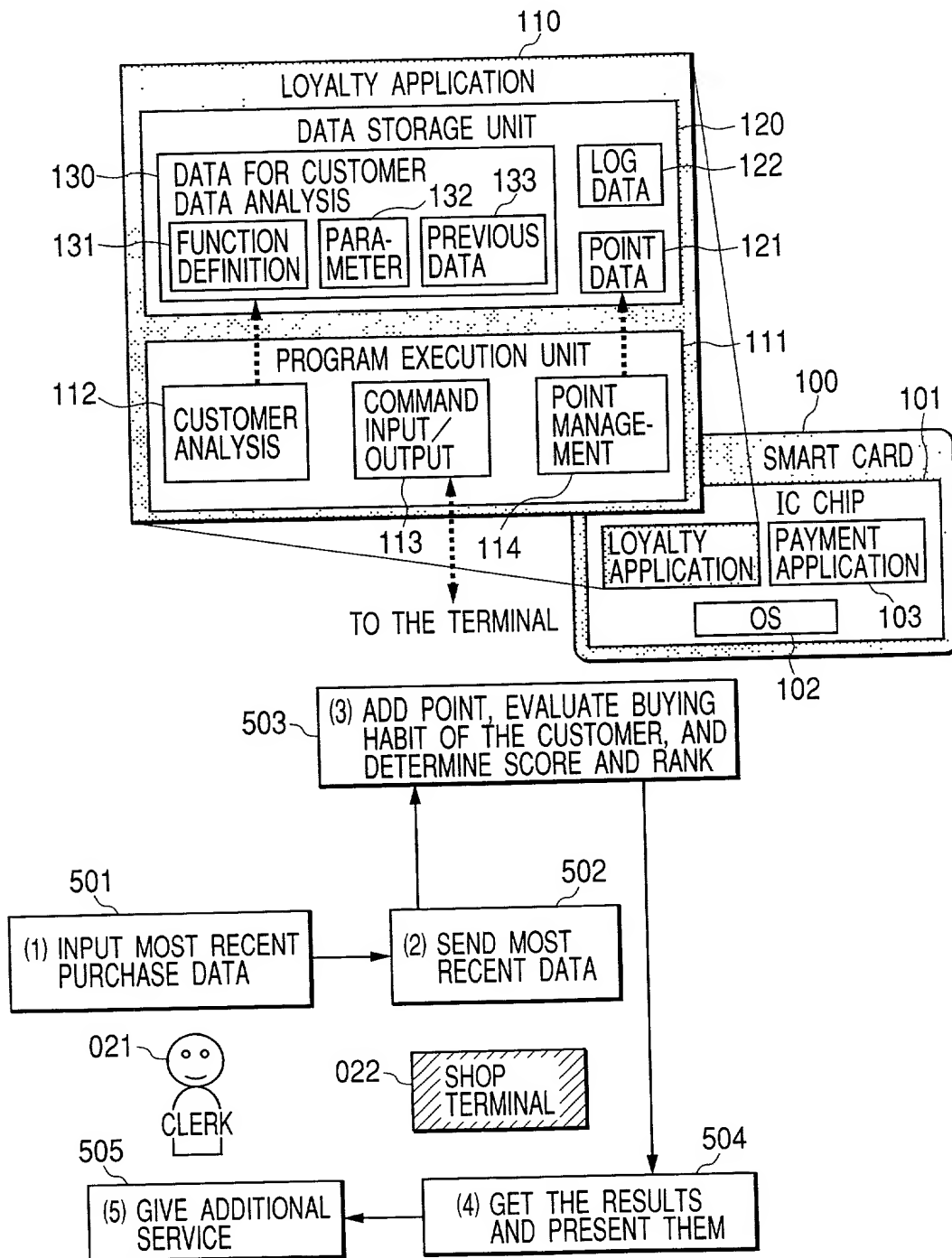


FIG. 3

## MATHEMATICAL FORMULA 1

$$S_n = P_n + e^{-k(t_n - t_{n-1})} S_{n-1}, S_0 = 0$$

$S_n$  = SCORE VALUE AT  $n$ -th TIME,

$P_n$  = PURCHASE DATA AT  $n$ -th TIME  
(AMOUNT, NUMBER OF USAGE etc.),

$t_n$  : DATE/TIME AT  $n$ -th TIME,

$k$  : CONSTANT

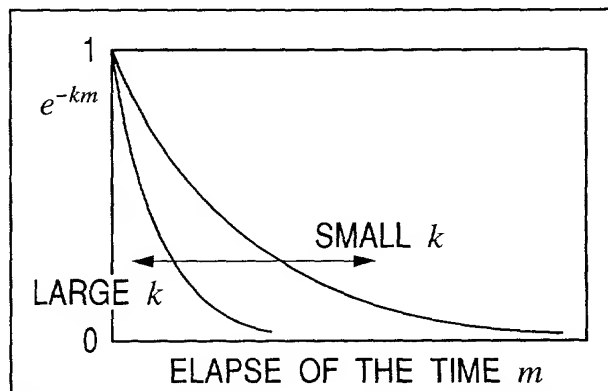
## MATHEMATICAL FORMULA 1'

$$S_n = P_n + e^{-k(t_n - t_{n-1})} P_{n-1} + \dots + e^{-k(t_n - t_2)} P_2 + e^{-k(t_n - t_1)} P_1 = \sum_{j=1}^n e^{-k(t_n - t_j)} P_j$$

COEFFICIENT  
WHICH ABSORBS  
THE EFFECT OF  
PAST PURCHASE

$$e^{-km}$$

212



213

## MATHEMATICAL FORMULA 2 (AVERAGE)

$$S_n = \frac{P_n + S_{n-1} \cdot (N-1)}{N}$$

$S_n$  = AVERAGE VALUE AT  $n$ -th TIME,

$P_n$  = PURCHASE AMOUNT AT  $n$ -th TIME,

$N$  : ACCUMULATED TOTAL NUMBER OF  
USAGE AT  $n$ -th TIME

214

FIG. 4

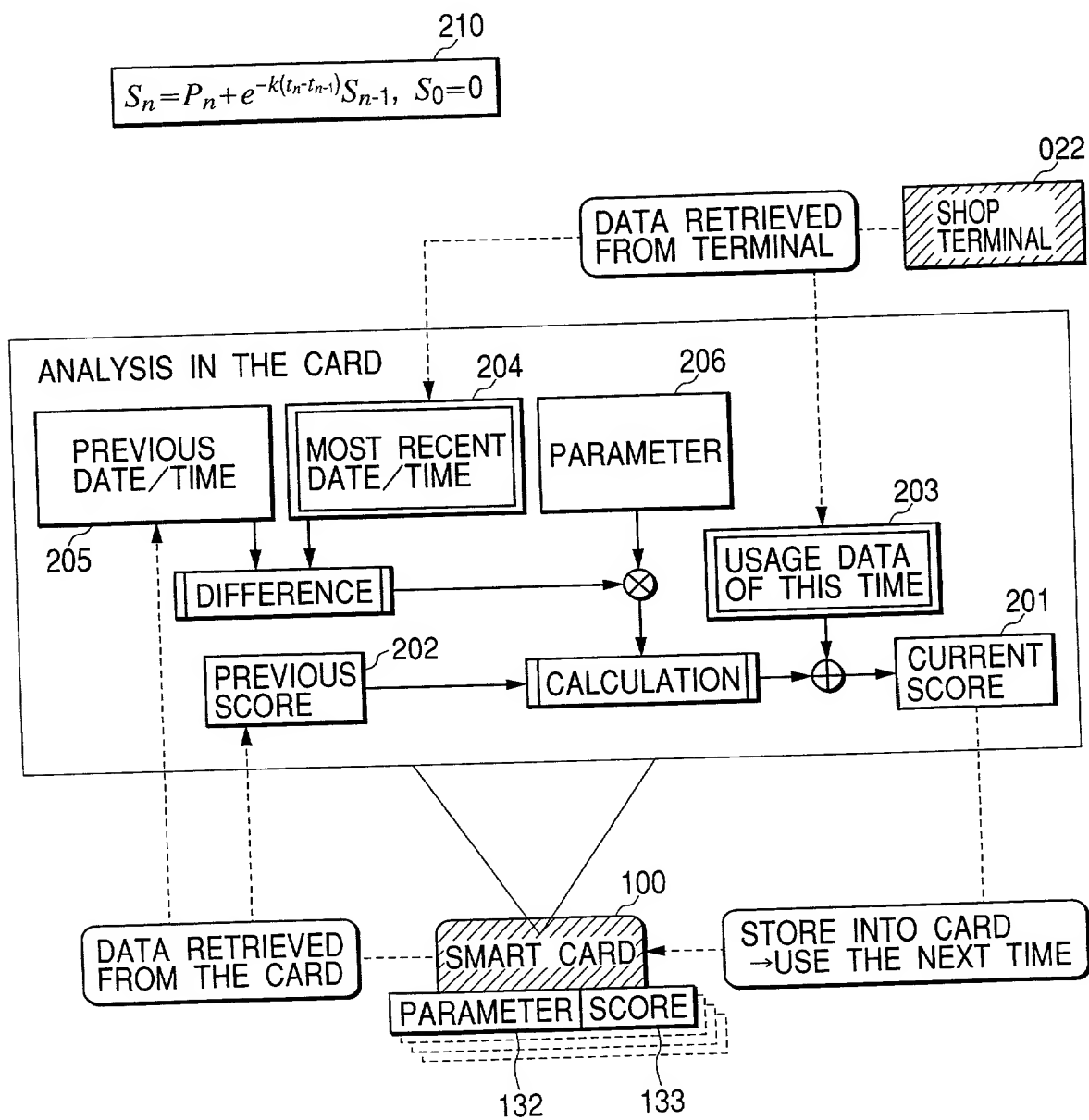


FIG. 5

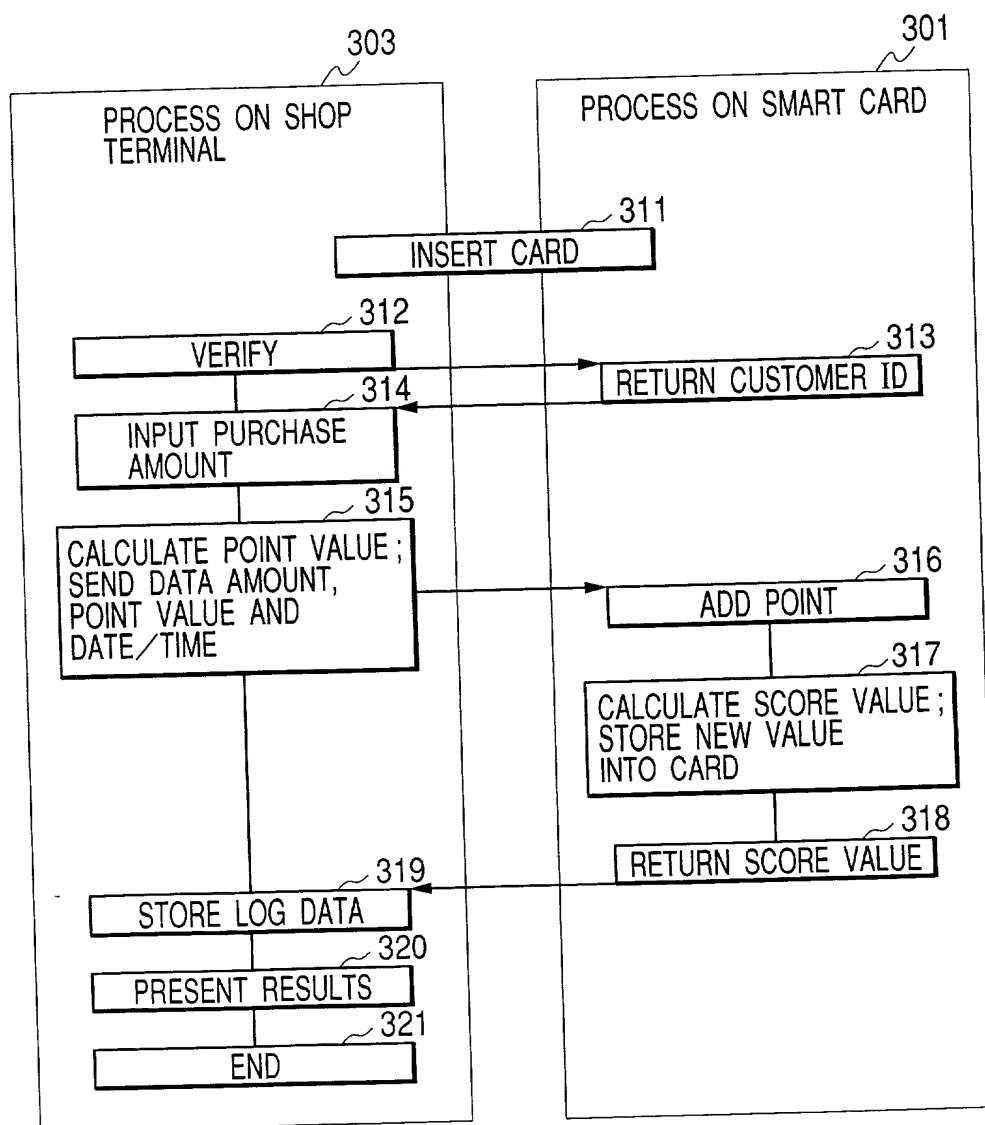


FIG. 6

400

DISPLAY OF SHOP TERMINAL

ID 1001001	Ms. HANAKO HITACHI	401
PURCHASE AMOUNT (THIS TIME)	12,580	402
ACCUMULATED AMOUNT	98,020	403
ACCUMULATED NUMBER OF USAGE	15	404
RANK FOR RECENT SPENDING	5	405
RANK FOR CONTINUITY	3	406

COMMENT :

THIS CUSTOMER HAS PURCHASED WELL  
RECENTLY. PLEASE GIVE HER THE SPECIAL  
PARKING COUPON

407

ISSUE COUPON 408

FIG. 7

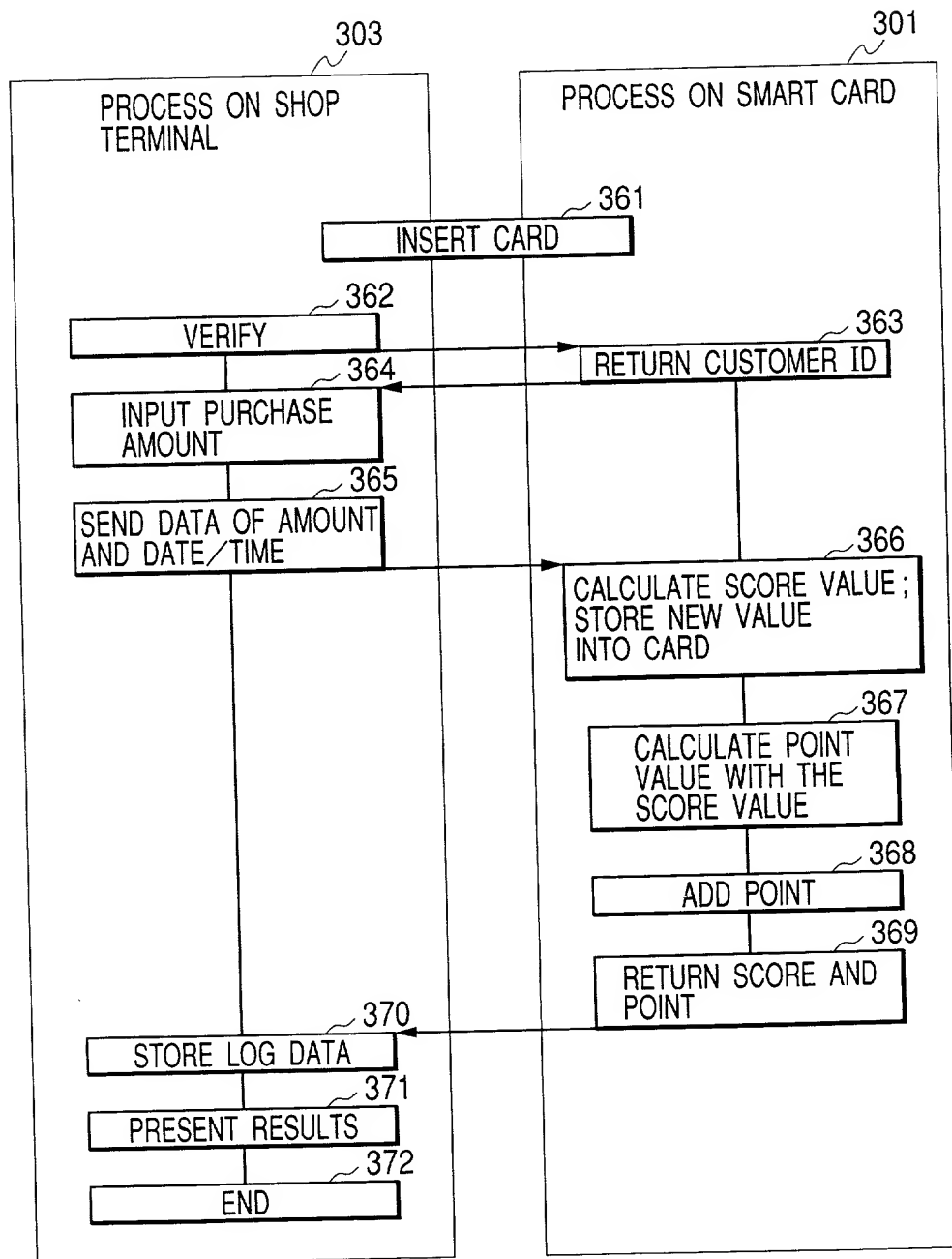


FIG. 8

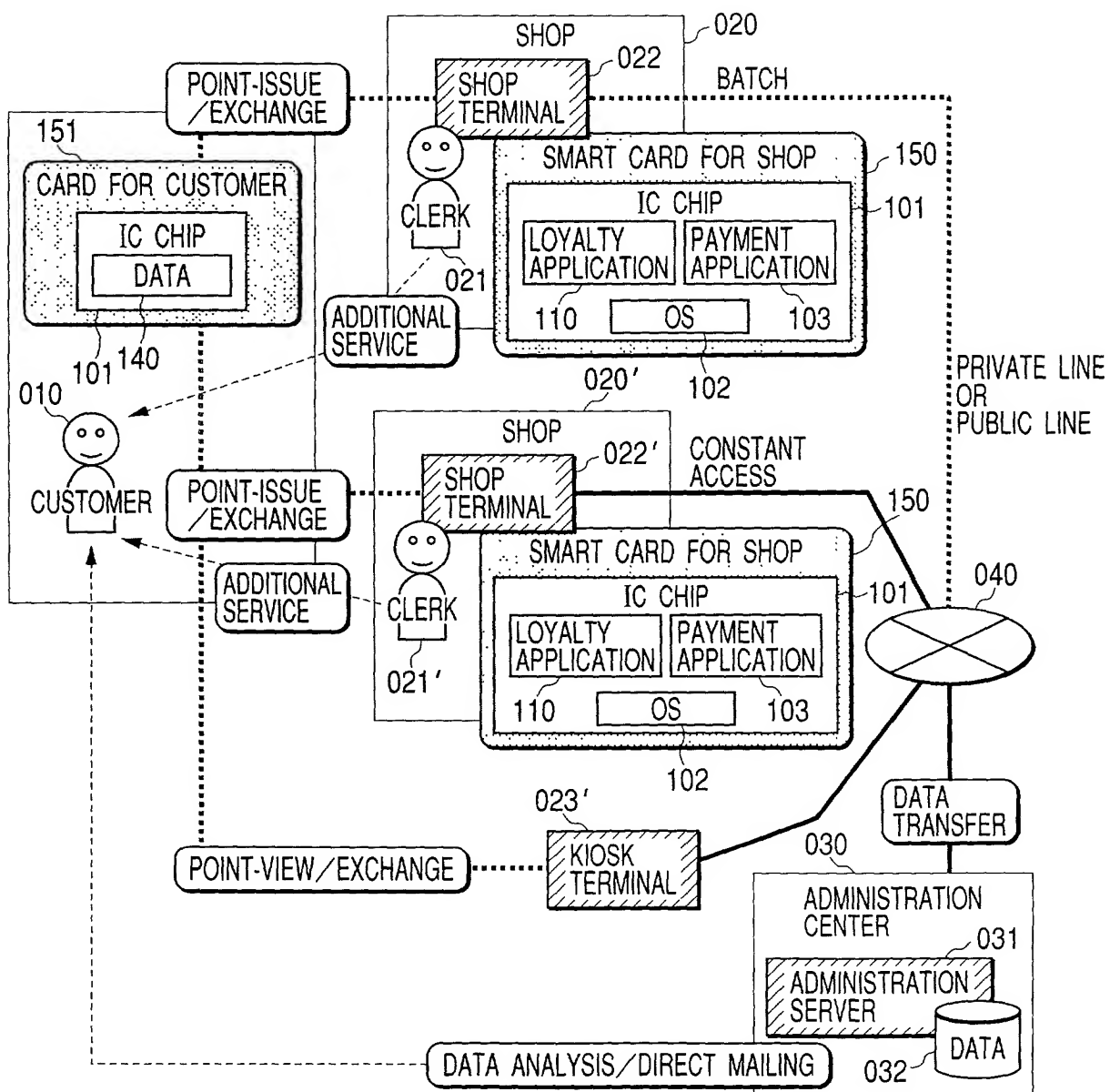


FIG. 9

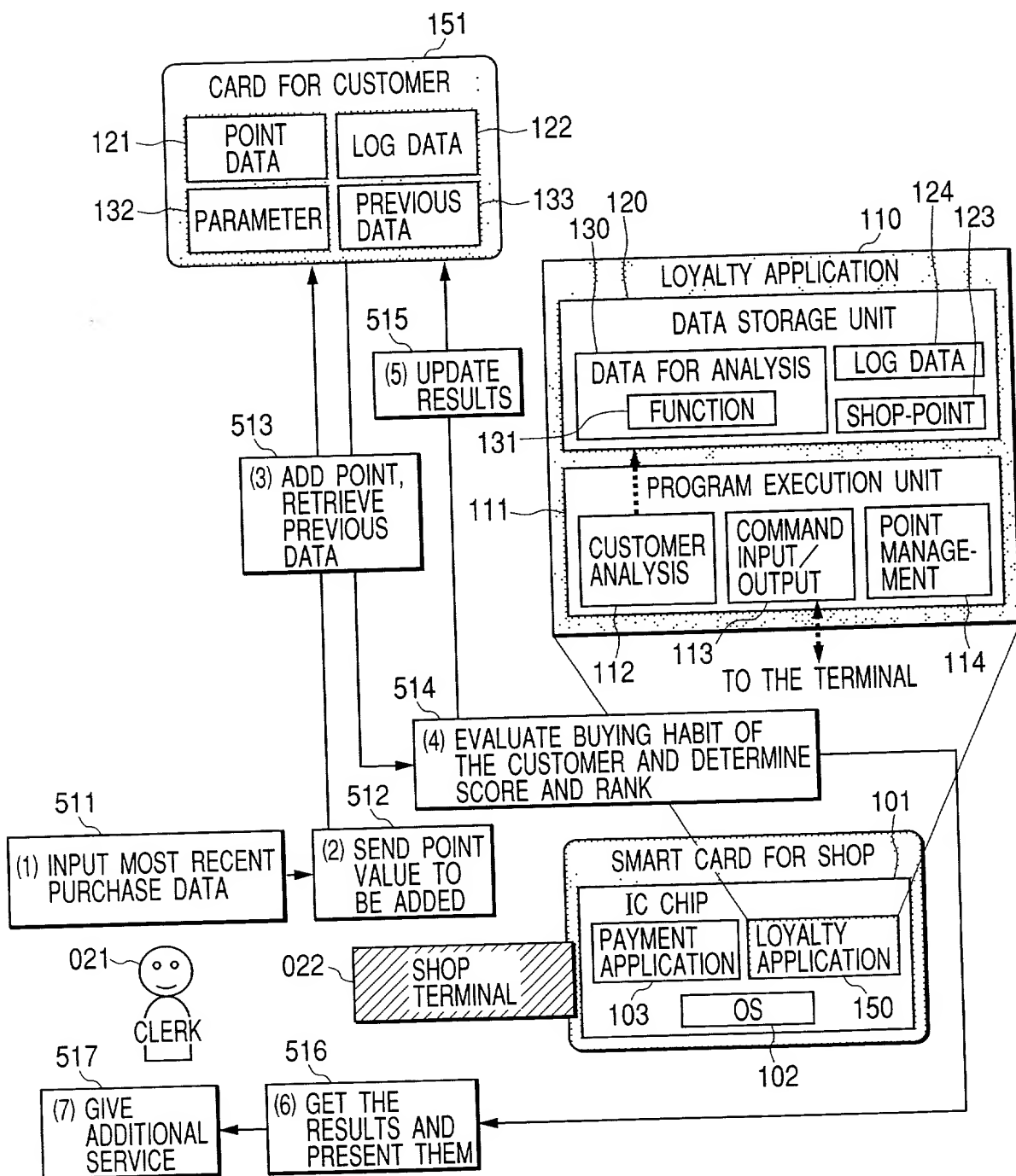


FIG. 10

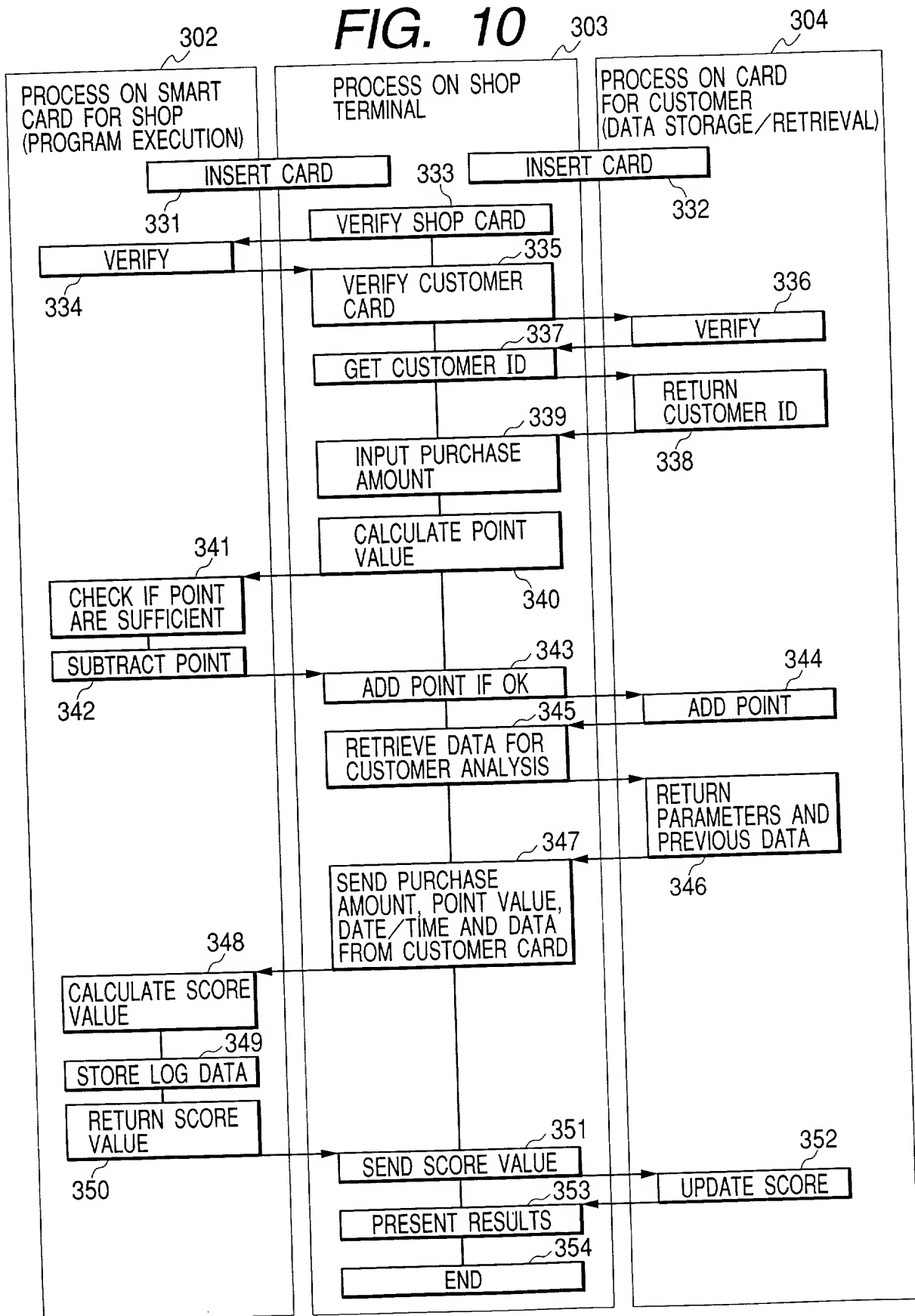


FIG. 11

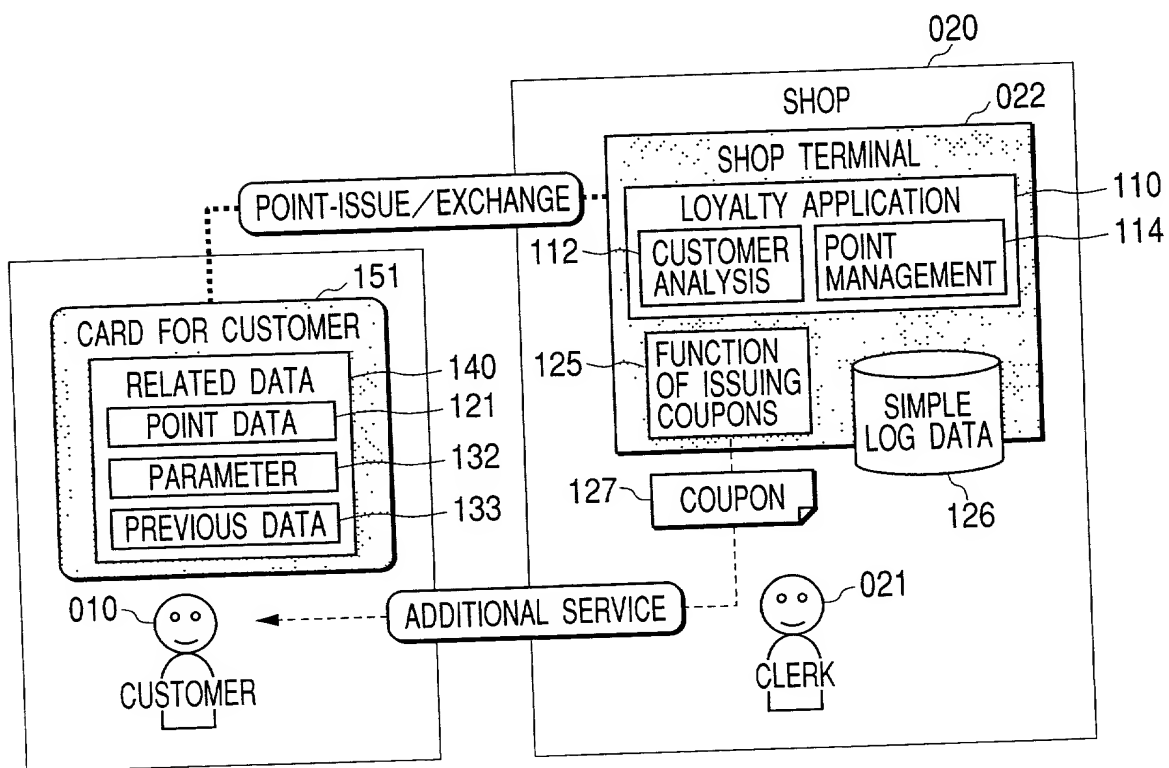


FIG. 12

